

REMARKS

Claims 1 – 111 remain pending in this application. The claims have been amended to correct grammatical and spelling issues. No new matter has been entered.

Information Disclosure Statement

The Office action states “[n]o information disclosure statement has been filed in this application to date.” The present application is a National Phase filing of PCT/US05/00606 under 35 U.S.C. § 371. According to MPEP 609.03:

The examiner will consider the documents cited in the international search report in a PCT national stage application when the Form PCT/DO/EO/903 indicates that both the international search report and the copies of the documents are present in the national stage file. In such a case, the examiner should consider the documents from the international search report and indicate by a statement in the first Office action that the information has been considered.

In the present case, although not indicated by any statement, the Examiner has in fact considered the prior art cited in the International Search Report (authored by the same Examiner) as indicated on the form PTO-892 provided with the Office action.

35 U.S.C. § 102 Rejection

The rejection of claims 1 – 26, 78 – 82, 90 – 98, 105, and 107 -111 under 35 U.S.C. § 102(b) as being anticipated by Henshaw et al., US 4,407,712 (Henshaw) (corresponding exactly to the Written Opinion in the international application, authored by the same examiner as International Searching Authority), is respectfully traversed.

Henshaw discloses a hollow cathode discharge source for ion plating a substrate with a metal vapor. As shown in Fig. 1, metal 32 to be vaporized is placed inside hollow cathode tube 20 having an opening 30. A gas feed tube 44 feeds argon gas into the tube. As shown in Fig. 2, the hollow cathode assembly 50 and opposing anode 10 are placed inside a cylindrical substrate 14.

In operation, a hollow cathode discharge is obtained with a high voltage, low current power supply to heat up the cathode to cause thermionic emission at which point the power supply is switched to high current. The gas pressure is decreased to between 10

millitorr and 100 millitorr and a stream of excited metal atoms is emitted from the cathode opening 30. The cylindrical substrate 14 is slowly swept coaxially over the cathode-anode gap 12 to cause a metal plating on the inner surface of the substrate 14.

The claimed invention requires, *inter alia*, deflecting an evaporated vapor flux by a carrier gas stream into an interior cavity of a stationary substrate from an area distal from and external to the substrate. See Fig. 3A of the present application. Contrary to the claimed invention, Henshaw discloses a deposition method wherein a cylindrical substrate must be swept over a stationary cathode-anode gap from which a stream of metal atoms is emanating through an opening in a hollow cathode. The cathode-anode assembly must be positioned inside the cylindrical substrate, and the cylindrical substrate must be moved by transport means 80 (Fig. 2) in order to apply a uniform coating to the interior of the substrate 14. In a further aspect, the claimed invention relates to the coating of a chamber (claims 78, 105). Henshaw nowhere discloses coating a chamber. Consequently, Henshaw fails to anticipate any of the rejected claims. Withdrawal of this ground of rejection is requested.

35 U.S.C. § 103 Rejection

The rejection of claims 27 – 77, 83 – 89, 99 – 104 and 106 as being unpatentable over Henshaw in view of Groves et al., WO 01/90438 (Groves), also is respectfully traversed.

The Office action states that “changing the flux length, width, etc. by adjusting pressure and utilizing baffled (*sic*) and masks are readily obvious expedients to control such a vapor flux and would have been obvious to one of ordinary skill in the art.”

Groves, however, does not cure the basic shortcoming of Henshaw with respect to the requirements of the independent claims. Further, it is not apparent from this ground of rejection how Henshaw would be modified in view of Groves, as the principle of operation of the plasma deposition apparatus of Groves is completely different and non-analogous to the hollow cathode thermionic emission and movable substrate apparatus of Henshaw. The Office action has not explained any specifics of how “flux length, width, etc.” would be altered by “adjusting pressure and utilizing baffled (*sic*) and

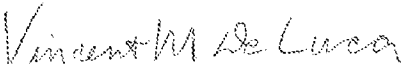
masks” in Henshaw as Henshaw’s coating method does not depend on any flux length or width or pressure adjustments, but to the contrary is based on heating of metal pellets inside a hollow cathode and streaming excited metal atoms from a cathode opening at a cathode-anode gap over which a substrate is slowly swept.

Further, neither Henshaw nor Groves disclose any of the limitations of the dependent claims of the present application; the Office action has not specifically addressed any of these limitations and to that extent the rejection of such claims is not sustainable as no *prima facie* showing of unpatentability has been established. Accordingly, withdrawal of this ground of rejection also is requested.

Conclusion

In view of the foregoing amendments and remarks, the present application is respectfully submitted to be in condition for allowance. Issuance of a Notice of Allowance is earnestly solicited.

Please charge any fee or credit any overpayment pursuant to 37 CFR 1.16 or 1.17 to Novak Druce Deposit Account No. 14-1437.

RESPECTFULLY SUBMITTED,					
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